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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,672	02/20/2007	Alexander Shendi	3768	7111

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MICHAEL J. STRIKER
103 EAST NECK ROAD
HUNTINGTON, NY 11743

EXAMINER

MOK, ALEX W

ART UNIT	PAPER NUMBER
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2834

NOTIFICATION DATE	DELIVERY MODE
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12/14/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

striker@strikerlaw.com

Office Action Summary	Application No. 10/583,672	Applicant(s) SHENDI, ALEXANDER	
	Examiner ALEX W. MOK	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendment

1. Acknowledgement is made of Amendment filed October 28, 2009.

Claim Objections

2. Claim 11 is objected to because of the following informalities: in the fourth line of claim 11, the term "the slot pitch (T_3)" does not have proper antecedent basis in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asao et al. (European Patent Document No.: EP 1353431 A1), and further in view of Ojo ("Multiobjective optimum design of electrical machines for variable speed motor drives", article, IEEE, published Sept. 28-Oct. 4, 1991, pages 163-168).

For claim 1, Asao et al. disclose a stator for an electrical machine which comprises at least one stator iron (reference numeral 36, figure 25) and the stator iron has a substantially annular-cylindrical shape (see figures 17, 18, 28), and in which the stator iron has an axial direction which is oriented in the direction of a cylinder axis, and

Art Unit: 2834

the stator iron has an end face which is oriented in the direction of the cylinder axis and defines a slot area (reference numeral 36a, figures 25-28). Asao et al. also disclose the stator iron having a number of individual laminations which are stacked one above the other (see paragraph ([0073], and figure 25), and also having two face ends which rest directly against one another (reference numeral 77, see figure 28), but do not specifically teach a ratio A formed of the slot area and the end face area that amounts to between 0.4 and 0.8. Ojo discloses a stator which has variables representing the different dimensions of the stator slot (see figure 1). It would have been obvious to a person of ordinary skill to adjust these variables of the stator slot in order to have the ratio for the slot area and end face area as claimed since Ojo discloses optimizing the design of the stator (see pages 163-166), the same problem the claimed invention is concerned with. Also the limitation of the stator being made by the flat-packet technique is a process limitation which is not given patentable weight in an apparatus claim.

For claim 2, Asao et al. teach the claimed invention except for the ratio A being between 0.4 and 0.7. Ojo discloses variables for the stator slot as explained for claim 1 above, and it still would have been obvious to adjust the variables of Ojo to achieve the range for the ratio A for the same reasons given above for claim 1.

For claim 3, the reference of Asao et al. teaches the claimed invention but does not specifically disclose the stator having forty-eight inner teeth, nor the ratio A amounting to between 0.45 and 0.70. Asao et al. still disclose the stator core having a plurality of stator teeth (i.e. figures 17, 18), and Ojo discloses variables for the stator slot as explained for claim 1 above. It still would have been obvious for a person of ordinary

Art Unit: 2834

skill to obtain a certain amount of stator teeth in Asao et al. such as forty-eight for design purposes of the invention, and it also would have been obvious to have certain dimensions for the variables of Ojo to achieve the desired range for the ratio as claimed for the same reasons given for claim 1.

For claim 4, the reference of Asao et al. teaches the claimed invention but does not specifically disclose the ratio A being between 0.45 and 0.60. Ojo discloses variables for the stator slot as explained for claim 1 above, and it still would have been obvious to adjust the variables of Ojo to have the ratio A be between 0.45 and 0.60 for the same reasons given for claim 1.

For claim 5, the reference of Asao et al. teaches the claimed invention but does not specifically disclose the stator having thirty-six inner teeth, nor the ratio A amounting to between 0.4 and 0.6. Asao et al. still disclose the stator core having a plurality of stator teeth (i.e. figures 17, 18), and Ojo discloses variables for the stator slot as explained for claim 1 above. It still would have been obvious for a person of ordinary skill to obtain a certain amount of stator teeth in Asao et al. such as thirty-six for design purposes of the invention, and it also would have been obvious to have certain dimensions for the variables of Ojo to achieve the desired range for the ratio as claimed for the same reasons given for claim 1.

For claim 6, the reference of Asao et al. teaches the claimed invention but does not specifically disclose the ratio A being between 0.40 and 0.55. Ojo discloses variables for the stator slot as explained for claim 1 above, and it still would have been

Art Unit: 2834

obvious to adjust the variables of Ojo to have the ratio A be between 0.40 and 0.55 for the same reasons given for claim 1.

For claim 7, Asao et al. teach the claimed invention except for the slot fill factor (F) amounting to between 50% and 80%. Since Ojo discloses the variables of the different dimensions of the stator slot as explained for claim 1 above, it would have been obvious for a person of ordinary skill to adjust these dimensions of Ojo to acquire the desired slot fill factor for the purposes of optimizing the design of the stator.

For claim 8, Asao et al. teach the claimed invention except for the slot fill factor F amounting to between 60% and 70%. Since Ojo discloses the variables of the different dimensions of the stator slot as explained for claim 1 above, it would have been obvious to for a person of ordinary skill to adjust these dimensions of Ojo to have the slot fill factor F amount to between 60% and 70% for the same reasons given for claim 7.

For claim 9, Asao et al. disclose the slot having a contour which is defined toward the yoke by diametrically opposed tooth sides (see figure 26, reference numeral 36a) and a yoke contour, and the tooth sides of a slot having a spacing from one another in the circumferential direction (figure 26); and that a slot pitch being the spacing between two directly adjacent tooth centers of the stator iron at the diameter of the spacing. Asao et al. do not specifically disclose c_3 , which is a ratio of the spacing toward the yoke and the slot pitch at the yoke, amounting to between 0.45 and 0.65. Since Ojo discloses the variables of the different dimensions of the stator slot as explained for claim 1 above, it would have been obvious for a person of ordinary skill to adjust the

Art Unit: 2834

spacing and slot pitch dimensions to acquire the desired ratio range for the purposes of optimizing the design of the stator.

For claim 10, Asao et al. disclose the slot having a contour which is defined toward the tooth head by diametrically opposed tooth sides (see figure 26, reference numeral 36a) and tooth head contours (figure 26), and the tooth sides of a slot, at the transition to the tooth head contours, having a spacing from one another in the circumferential direction (see figure 26); and that a slot pitch being the spacing between two directly adjacent tooth centers at the diameter of the spacing of the stator iron. Asao et al. do not specifically disclose c_2 , which is a quotient of the slot width of the tooth head and the slot pitch of the tooth, amounting to between 0.45 and 0.65. Since Ojo discloses the variables of the different dimensions of the stator slot as explained for claim 1 above, it would have been obvious for a person of ordinary skill to adjust the spacing and slot pitch dimensions to acquire the desired ratio range for the purposes of optimizing the design of the stator.

For claim 11, Asao et al. teach the claimed invention except for c_2 amounting to between 0.50 and 0.60 and (c_3), which is the ratio of a spacing toward a yoke and the slot pitch of the yoke, amounting to between 0.47 and 0.60, Ojo again discloses different dimensions for the stator slot as explained for claim 1 above, including W_1 and W_2 (see figure 1), and it still would have been obvious to adjust these variables of Ojo to have the claimed ratio since it would optimize the design of the stator, the same reasons given for claim 1.

For claim 12, Asao et al. disclose a rounded shape around the sides of the slot (see figure 26), i.e. the tooth sides changing over by means of rounded transitions to the tooth head contours and the yoke contour, but do not specifically teach the radii amount to be between 0.3 mm and 2.0 mm. Ojo discloses the variables of the different dimensions of the stator slot as explained for claim 1 above, and it would have been obvious to adjust these dimensions of Ojo to have this range of the radii for the same reasons given above for claim 1.

Response to Arguments

5. Applicant's arguments filed October 28, 2009 have been fully considered but they are not persuasive. In response to the Asao et al. and Ojo reference not disclosing the ratio A of the slot area and the end face area, the reference of Ojo discloses variables such as W_1 , W_2 , r_1 , r_2 , d_c , etc., and also discloses a way to compute the slot area of the stator (see page 165, second column, equation (22)). A person of ordinary skill can adjust the several variables disclosed by Ojo to arrive at the slot area and the end face area, and thus achieving the ratio A to be between 0.4 and 0.8. Even though the specified ratio ranges of the claims are not explicitly recited, this does not exclude a person of ordinary skill from adjusting the variables of the stator slot as exhibited by Ojo, therefore attaining the desired slot fill factor, slot spacing b_{z3} and the slot pitch T_2 which also leads to the desired value for the c_2 and c_3 ratios.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX W. MOK whose telephone number is (571)272-9084. The examiner can normally be reached on 7:30-5:00 Eastern Time, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen P. Leung can be reached on (571) 272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2834

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/Quyen Leung/
Supervisory Patent Examiner, Art Unit 2834

/A. W. M./
Examiner, Art Unit 2834